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AMERICAN JOURNAL OF PHOTOGRAPHY

AN ILLUSTRATED MONTHLY
DEVOTED TO PHOTOGRAPHY
IN ITS WIDEST SENSE

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ÆRIAL PERSPECTIVE

HENRY ALBERTSON.

WHILE at an exhibition of oil paintings, I enquired of a viewer, who with a roll of paper up to his eyes was gazing intently at a beautiful landscape, what was the advantage of the improvised optical instrument? With a condescending look for the woeful state of my artistic ignorance, he informed me that he was analyzing the perspective of the scene.

As I had repeatedly enjoyed the beauties of this very picture, I thought to further increase my delight by the tubal analysis. But, though the view represented a great stretch of land, apparently miles in extent, I failed to discover the scheme of perspective as determined by lines and angles. In fact the picture strictly speaking had no linear perspective,—the whole effect of distance being caused by skilful softening of the outlines of the receding objects, so as to give atmospheric effect. Having made this discovery, I found that other celebrated pictures were equally unmindful of linear perspective.

Few painters cover their canvases with lines like the spokes of a bicycle wheel. They simply draw nature as they see it, recording the impression received by their eyes.

Aerial perspective, then, as distinguished from linear perspective, is the effect of atmosphere upon objects, lights, or colors in nature, and is produced by proportionate intensity or depression of color and light. In effect it blurs the outlines and modulates the colors of objects, and its use results in a sharp line being graded into rough form; and rough form finally disappearing into mere patches and blurs of color, as the distance increases.

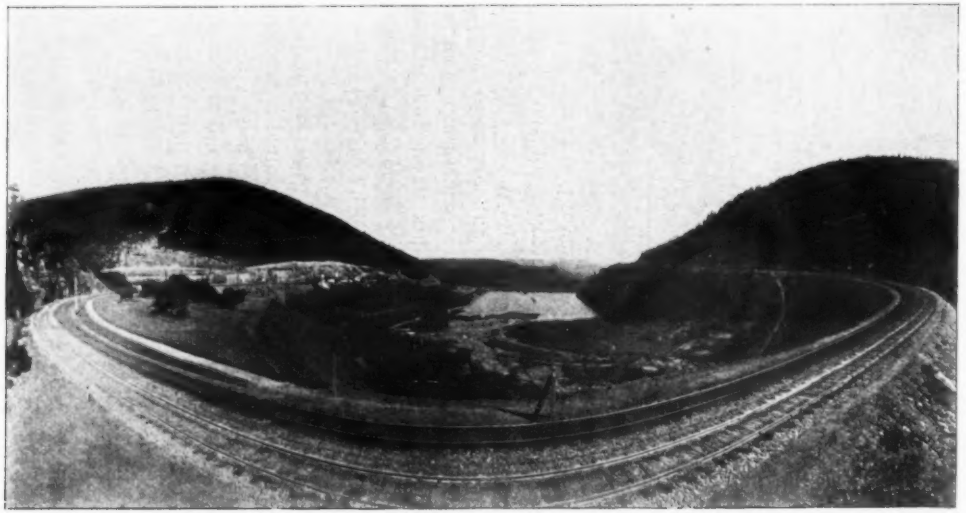
In photography the linear perspective is determined by the lens, and the judgment of the photographer is exercised in the choice of focal length, but how is the ærial perspective of a photographic picture to be secured?

The matter of focusing the image upon the ground glass of the camera, with regard to the determination of the amount of definition is a very important one in its relation to artistic effect.

As the inferior artist tries to produce the atmospheric perspective by scrumbling the canvas with white or grey paint, instead of producing the effect by graduation of line, tone and color, so the would-be-artist in photography thinks he has achieved poetic perspective by putting the distance out of focus.

The means which the painter employs are not all available by the photographer. His chief reliance for the attainment of the effect of ærial perspective is the selection of a view which gives intervention of atmosphere, and besides the haze has to be of a quality that does not obscure too much.

Blur, or out-of-focus-distance, however, is not always an evidence of want of skill or judgment on the part of the photographer. Where the picture has a group in the foreground, as forming a part of the scene to which the distance is only accessory, the objects in the background not assuming sufficient importance to interfere with the motive of the picture, indistinctness or want of sharpness, really accentuates the principal feature of the work. If, however, the objects in the background assume importance, sufficient to be in any way prominent parts of the picture, they ought to be focussed sufficiently



Horse Shoe Bend—Pennsylvania

WILLIAM H. RAU

distinct to show what they are. The great difficulty the photographer has to encounter in simulating the effect of ærial perspective is the choosing from among the qualities of nature those that are within reach of his camera.

It is only by careful observation and continual experience that he becomes trained to the perception of what in Nature is best fitted for the purposes of his art. He must have obscurity in certain parts of his picture, but the degree must be properly considered in relation to the effect to be produced.

Sometimes, the photographer in his zeal for the proper rendition of color values in his landscape will have nothing but an orthochromatic plate. Now the orthochromatic plate, especially in conjunction with yellow screen, is a most potent destroyer of ærial perspective. Their conjoined effect is to render the distance extremely clear by destruction of all hazziness in the atmosphere.

The student may learn much about ærial perspective from the paintings of the Flemish and Dutch schools as may be seen in the interiors of de-Hooghe and Van der Mieer, and the landscapes of Hobbema and Wynants—and in the marine views of Van de Velde, Constable, Borington, Corot, Decamps, and especially in the works of Troyon, Rousseau and Daubigny, and amongst American painters, Weir, Tryon and Robinson.

PASADENA, Cal., Dec. 27, 1899.

AMERICAN JOURNAL OF PHOTOGRAPHY:

Dear Sir—The check for $5.00, as Second Prize for interiors, was received several days ago. Accept my thanks for same.

Also received the JOURNAL, to-day, containing the half-tone illustration, which is very good indeed and nicely printed.

Yours truly,

55 Worcester Ave. MRS. L. H. HUTCHINS.

PASADENA, Cal., Dec. 23, 1899.

MR. AUSTIN C. LEEDS,
Publisher AMERICAN JOURNAL OF PHOTOGRAPHY, Phila.:

Dear Sir—Your favor of the 16th duly received, with check for $10.00, for First Prize interior view. Please accept my sincere thanks for same, and for your kindness in the matter.

I wish the JOURNAL further success in its good work, and you a Merry Christmas and a very Happy New Year.

Very respectfully,

W. H. HILL.

The Banyan Tree COLLECTION OF WILLIAM H. RAU

A Pretty Bit Near Oxford, England

SELECTION OF A SUBJECT

TRISTAM J. ELLIS.

IT is strange what a long time it takes before the beginner can learn to choose a subject that composes well. Details attract him too much, such as a splendidly rugged trunk of a tree, a beautiful group of flowers, a charming reflection, or a most rustic cottage, which one and all rivet his attention regardless of surroundings, and he is surprised, when he looks at his finished work, how poor and uninteresting it looks when hung up upon the wall beside other and better compositions. We should always regard general grouping first and special interest of detail later.

An admirable way to do this is to half close the eyes, which causes the general grouping of lines, and light, shade and color, to become more easily visible on account of the attention not being drawn off by the detail.

It is also of great assistance to put up the arm in front of the face, holding the part from the elbow to the wrist horizontally, and to move it up and down until you see where the subject had better be cut off for the bottom of the picture. Then the other hand may be moved along it vertically to see where the other sides had better come.

Sometimes the subject seems a beautiful one, as a rich and splendid bit of heather in full bloom, with perhaps some cottages and fir trees at a distance, rather on one side, and distant hills beyond. Yet we find it will not compose into an interesting picture, and we try in vain the moving of one arm up and down, and of one hand backward and forward. Suddenly, a man and a loaded donkey emerge from the cottage gate and come slanting across the picture towards us, a little child stopping at the door to see him off. Immediately a good composition appears, and we have only to take it literally to secure our picture.

The French consider that a landscape is no picture unless

there are three planes or parts—the first plane or foreground, the second plane or middle distance, the third plane or extreme distance. An endless variety may be given to the composition by varying the size and importance of the three planes, but there always should be three.

If the third plane is missing, a close and shut-in feeling is produced. A little peep of distance should be got in someway or other, though if this cannot be done, a fine sky will sometimes act as the third plane.

If the second plane is not seen the effect is theatrical. Though in nature occasionally, as in mountain scenery, we may have a fine landscape without a visible second plane, we know and feel it must be there.

If the first plane or foreground is omitted, all strength goes out of the picture.

Lastly, if both the second and the third planes are wanting, there can be no true picture though it may be accounted a study of foreground.

The advice of a celebrated picture-dealer to a young landscape artist was—"Never paint a picture with a shut-in composition. People inside rooms like to have pictures which, when they look at they can imagine themselves seeing out of to something bright and fresh beyond."

In the days gone by, Nature never seemed enough for the artist. He always added to make it richer than he found it. Now-a-days, we know a picture may have all the requirements of a good composition and yet may be perfectly natural. The great spread of instantaneous photography of the right kind, has made this abundantly plain. If we look at a number of instantaneous photographs by first-class photographers, we may pick out many that in composition and effect are beautiful pictures, and there is no possibility or opportunity for contrivance in these as there is when the incidents are arranged for slower work by photography.

It is curious to notice how the less the figures are aware that they are being taken, in other words, the more natural the composition is, the more beautiful it often becomes. Not but what there are many more examples of bad than good composition in photography, but when it is good it has a charm about it that is possessed only by the works of the greatest masters.

WINTER PHOTOGRAPHY

JAMES KAY.

UNLESS the solutions are somewhat warm during the prevalence of cold weather, the negative is apt to be lacking in detail as well as density. Those who still use pyro as developer, find that it is more liable to stain the film during development in cold weather than in the summer season. In fact, the dark room should be kept warm so that dishes as well as chemical solutions may not be at too low temperature. Negatives developed with moderately warm solution are always more brilliant looking than when the solution is ice cold. Printing during cold weather also requires attention. It is more difficult to secure a rich print from a rather dense negative. Thin negatives, that is, such as contain full gradation, always make better prints.

The toning of prints also requires attention to temperature. We generally keep the solution cold for the gelatine papers, but even they should have the toning bath not lower than 70° but also not above this degree. The washing before the toning of the gelatine paper prints should be in luke warm water. If the water is ice cold, it is impossible to secure rich tones.

DOUBLE TONES IN GELATINO CHLORIDE PAPER

J. GEORGE GIBSON

DOUBLE tones in the gelatine printing-out paper are generally attributed to the use of sulphocyanide of ammonium or potassium in the bath. Whether this chemical really predisposes the paper to take on this uncanny appearance I cannot say, but I have noticed that the sulphocyanide when used with a scanty proportion of gold chloride caused the image to drift in the undesired direction of

double tones. The defect of tone is most noticeable in the half-tones of the print and especially at the edge of vignettes.

Probably a properly constituted sulphocyanide bath would give as even tones as any other bath—but most of the toning formulas seem to me to have a dangerous amount of the sulphocyanide in proportion to the quantity of chloride of gold.

The double tones are associated with weak bath and, therefore, I use a larger proportion of gold than is set down in the formula for toning, and besides I never use an exhausted bath. I believe that there is no saving in the homeopathic formula with gold.

In albumen printing days we estimated that one grain to the sheet of paper was the limit on the side of economy—but few printers then kept to this ebb point in gold, but sought to increase the beauty and richness of the tone by stronger gold bath. Other things being equal, I think we should not use less than two grains of gold to the same amount of gelatine paper. The permanency would be better assured, for it stands to reason that gelatine paper requires more gold even than albumen paper.

The gelatine paper requires a bath sufficiently concentrated to change the color of the print without subjecting it to a prolonged toning which is sure to run the print into double tones.

A rather quick acting toning bath free of sulphocyanide is made as follows:

Chloride of Gold	15 grains.
Carbonate of Soda	230 "
Chalk	70 "
Water	32 ounces,

After twelve hours the bath becomes clear and is ready for use.

The prints are to be first well washed in several changes of water before subjecting them to the toning operation.

The trouble, however, with the use of too rapid toning solutions is that it is difficult to get more than one tone, and that has a tendency to coldness—and there is also a liability to eat away the lines of demarcation between the lighter tones and destroy the gradations.

A great deal of objection has been made to the use of the combined toning bath. The fading of the print being laid entirely to its influence; but I believe that a properly constituted combined bath, rather rich in gold, will insure the permanency of the image. By properly constituted, I mean the adjustment of the amount of sulphocyanide to the other chemicals.

The reason why the combined bath is condemned is because it is made to do more service than it ought to do.

Take, for instance, a bath composed as follows:

Water	50 ounces.
Hypo	1½ "
Lead Acetate	120 grains.
Ammonium Sulphocyanide	30 "
Gold Chloride	2 "

When first used it works admirably, giving beautiful tones, but subsequent use shows that it is inert in its action on the deep shadows; they scarcely change color at all.

The reason for its behavior is the exhaustion of the gold by the first toning and the consequent preponderance of the other chemicals.

It may seem to some like an extravagant use of materials but I never use the same combined bath more than once. However, I do not use more of the solution than is necessary. In this way I escape the mortification of double tones, have bright, brilliant prints, and I believe as permanent as any made by the old albumen printing process.

As a combined toning and fixing bath I use Liesegang's formula:

(1)	Water	32 ounces.
	Hypo	8 "
	Sulphocyanide of Ammonium	1 ounce.
	Acetate of Soda	½ "
	Saturate Solution of Alum	1 "
(2)	Water	8 ounces.
	Chloride of Gold	15 grains.
	Chloride of Ammonium	30 "
	Fresh Chloride of Silver	30 "

Pour the gold solution into the hypo.

BINOCULAR VISION AND THE STEREOSCOPE

Read before the Photographic Convention, and reported in the "British Journal of Photography."—By Thomas Bedding.

WRITERS on optics frequently institute a comparison between the human eye and the photographic camera, or, strictly speaking, the photographic lens and camera, which are supposed identical in their capacity for forming real images of objects situated in front of them. The comparison, if briefly examined, will take us a little on the way towards realising what binocular vision is.

The manner in which a photographic lens forms an image is, of course, well known. When we photograph either a near or a distant object, there has to be a movement of the focusing screen, or, in optical language, an alteration of the conjugate foci. Let us examine in what manner the eye forms an image on its focusing screen, otherwise the retina. In so doing, we need only consider that portion of the eye which is termed the crystalline lens. This acts precisely in the same way in the formation of the retinal image as does the photographic lens in the formation of the image on the ground glass of the camera. This crystalline lens may, for our purpose, be described as a double convex lens of unequal radii of curvature. It is, in fact, a crossed lens, which forms images of near and distant objects in virtue of what is termed accommodation.

Accommodation consists simply of the ability of the eye to alter its radii of curvature at will. The crystalline lens is held in position between two sets of muscles called the ciliary muscles, and when the eye is directed to some near object it becomes more convex in virtue of the property which these muscles have of compressing the lens, thus shortening its anterior radius, and, of course, increasing its degree of curvature. On the other hand, when the eye is directed towards some distant object, the curves of the crystalline lens are flattened, and their radii consequently increased.

What I have so far said may bring home to us the exact amount of resemblance there is between the eye and the photographic lens as image-forming systems. In the case of the photographic lens used for the formation of images of near or distant objects, a movement of part of the optical system is necessitated, whereas with the human eye the same end is simply fulfilled by its ability to alter its curvatures at will.

In this connection it is, perhaps, permissible to speculate that it would be a very great advance in photographic lens construction if the Optician of the future could provide us with a lens of some plastic transparent material which, by a little pressure one way or the other, would give us an instrument convertible to either a long or short-focus lens at will. Whether it is too much to expect I do not know, but in these days of advancing enlightenment scarcely any speculation as to what remains for achievement by scientific agency seems too far-reaching.

Now so far we have dealt only with monocular vision—that is, vision with the single eye. But in Nature we have to deal with two eyes, and consequently we must consider in what manner those eyes, which project on a plane surface plane images of objects situated in front of them, yet enable us to realise the marvellous phenomena of distance, depth, height, and solidity—binocular vision in short.

Lecturers and writers on the subject of stereoscopy usually tell us that we see two dissimilar views of an object or scene which the brain combines, thus giving us the effects I have just enumerated. But, if we go deeper into the theory of binocular vision, we shall see that there are revealed to us some very beautiful principles underlying the functions of the eye in the conveyance of the representation of solid objects to the brain.

Let me, therefore, briefly recount portions of the theories of several eminent men on this question of binocular vision. Helmholtz, perhaps the greatest writer we have had on this subject, points out that the eyes only see one object at a time, while Brewster, another celebrated writer on binocular vision, tells us that the eyes are always in motion, and that they realise distance, depth, and solidity but what is commonly called the greater or less convergence of the optic axes. This term is susceptible of a simple explanation. You may imagine two right lines drawn in front of the eyes, and that these lines either parallelise for distant

objects or converge for near objects. The greater the convergence, the greater the amount of stereoscopic relief; the greater the parallelism, the less the relief.

Wheatstone, the inventor of the reflecting stereoscope, presents a slightly different theory. He says, in effect, that binocular vision is a psychical function—in other words, it is produced by the mental fusion of two dissimilar views.

Brucke, a German author, relies for an explanation of the theory upon the controlling action of the ciliary muscles upon the crystalline lens, to which I have already referred. Thus we obtain three distinct theories—the muscular, the mental, and the optic axes.

But the late Professor Tyndall expounded a theory which will appeal, I think, to most of us as perhaps the most easily comprehensive and rational. He asserts that, "when the optic axes are converged upon a certain point of an object, the other points produce a certain determinate effect on the retina, and are in some measure the objects of our attention. There is thus established an association between a certain convergence of the optic axes and certain incidental impressions, and this association may, I think, be so refined by habit as to enable us to infer the solidity of a body or the relative distances of objects, while the optic axes are kept immovably fixed on a single point."

In all probability the theory presenting the greatest subtlety and difficulty of acceptance is that advanced by an American writer—Dr. Le Conte. He say that "the retinal image impresses the retina in a different way; this impression is then conveyed by the optic nerve to the brain and determines changes there, definite in proportion to the distinctness of the retinal image, and then the brain or the mind refers or projects this impression outward into space as an external image, the sign and facsimile of an image which produces it."

Having briefly endeavored to place before you some of the various known theories of binocular vision, I will digress from the main subject, and point out the importance of the theory of binocular vision in relation to what we call pictorial photography, a relation which is not widely suspected, and may strike many with surprise.

About ten years ago a notable book was produced under the title of "Naturalistic Photography." Like other notable books

it excited much comment and opposition, and above all, was grossly misunderstood. Most people, however, are probably unaware that the whole theory of naturalistic photography which the author, Dr. Emerson, worked out, relies entirely upon an intimate study of the phenomena of binocular vision. In the third chapter of this work, mostly overlooked by it reviewers, the author goes very fully and exhaustively into the principles of binocular vision—what the eye sees, and how it sees it, and, reasoning out the application of those principles to photography, comes to the conclusion that we should go to Nature for our photographs and photograph Nature as the eye sees it, that is, in accordance with the laws of binocular vision.

You will recollect that Helmholtz told us that we only see one object sharply or distinctly at a time, and that we are only conscious of the other and surrounding objects. This proposition, I take it, no photographer who use his eyes will controvert, and thus it will be perceived that naturalistic photography, as reasoned out by Dr. Emerson, relies entirely on a scientifically established basis.

This association of science with art may, perhaps, have the effect on many that the red rag is popularly supposed to have on the bull. No one likes less to hear of the intimate relations of science with art than the "photo-faker" or "photo-dodger." Still the fact remains that, in making pictorial photographs, you have here a little bit of sound scientific reasoning which places you secure in the knowledge that, if you take your photographs according to these rules, you are producing them just as the eye sees Nature, which seems to be only a commonsense way of doing things.

Passing now from this branch of our subject, we come to the stereoscope itself, of which a body of photographers like that which I am addressing needs no description. Among the general public, however, the functions of the refracting stereoscope, dismissing from our minds the form which depends upon reflection, are wofully misunderstood. It does not possess any wonderful occult property, nor is it a magic construction that produces effects difficult of explanation. The functions of the stereoscope may be summoned up in the remark that it resembles a pair of spectacles in so far as it assists or corrects the human vision in the examination of binocular photographs.

It has often occurred to me that the stereoscope as an optical instrument receives but scant justice at the hands of modern opticians. I feel that, when one wishes to view photographs by the stereoscope, he should have his eyes tested as carefully as he should for a pair of spectacles, as it is obvious that defective vision enters as much into the one case as the other. Were this systematically carried out by competent persons, it might be possible to put the lenticular stereoscope on a footing from which it would not easily be disturbed. Each instrument would be fitted for the special optical requirements of the individual, inequality of foci, distance of eye separation, and the aberrations being provided for. The fact that this is not done is probably the cause of so many of the complaints that we hear from people who do not understand what stereoscopic photographs are, or how they are viewed, and for whose defects of vision, where they exist, no provision is made. Thus a beautiful branch of photography is very often misunderstood and condemned.

But my main purpose now is to speak, not about the improvement of the stereoscope as an optical instrument, but to endeavor to throw out a few suggestions for means whereby you can dispense altogether with the stereoscope in the examination of binocular photographs.

In times gone by, several methods have been published, designed to enable persons of normal vision—and it is of normal vision only to which I refer throughout—to see stereoscopic pictures stereoscopically without a stereoscope. It is one of the easiest things in the world to acquire, and, when acquired, it is a faculty from which you can extract a world of enjoyment.

Going back to Brucke's theory, by which the ciliary muscles of the eye are supposed to play the most important part in binocular vision, there is a simple system, devised some thirty years ago or more, which, if practised for a little while, will give the eyes the necessary command over axial parallelism, divergence or convergence, so as to enable them at the focus of normal vision to see stereoscopic photographs in relief.

Here it is. Two sheets of white paper are required. Upon one, near its upper margin, make two circular marks in ink an inch apart; upon the other one, also a circular ink mark or dot. Hold the latter paper about 20 inches from the eyes; interpose the former about midway between the eyes and the paper with

the one dot, so that the three dots appear in a line. Now look intently at the farther dot ; the mind will shortly see three dots on the first paper. When this effect has been obtained, substitute for the paper with the two dots another sheet having dots 1½ inches apart, and, when with these the effect above described has been obtained, the distance of separation may be yet further increased, and the muscular control thus obtained will enable a binocular photograph to be substituted for the sheet of paper with the two ink dots. The centres of the photographs should not be more than 1¾ inches apart, and these may be gradually increased. Let these two photographs and the dot be looked at as were the three dots. Three photographs in a row will shortly be seen, and then the beautiful effect of a single photograph in relief will present itself.

In all my experience of photography, nothing has given me so much fascination as the moment when, having practised the little experiment above described, I first acquired this valuable facility of dispensing with the use of a stereoscope. It is one of the greatest pleasures I enjoy that I am always able to take up a slide or transparency and instantly and perfectly perceive it in its stereoscopic form.

So far I have explained how this little feat, which is wrongly supposed to be difficult of acquisition, but is not, may be acquired; but I would now wish to draw your attention to the fact of the human eyes being, after all, probably the best stereoscopes to employ, having being recognised by Elliott, the Edinburgh optician, over sixty years ago, before the invention of the stereoscope itself, either as a reflecting or refracting instrument.

The first stereoscope (Elliott's) contained no lenses or prisms at all. It consisted simply of a plain apparatus for enabling you to see stereoscopically dissimilar drawings, which, of course, long preceded the advent of stereoscopic photographs.

Imagine, then, a rectangular box, about 8 inches long, with a division running down its centre, and two holes where the latter-day lenses are fixed, and a groove at the further end wherein you drop your specially prepared drawing or stereoscopic photograph. These holes themselves may be supposed to perform the function of the stereoscope in parallelising the optic axes. They enable the left eye to see the left picture and the right eye to see the right picture only, and this is practically all that is required in the examination of binocular photographs.

Ordinarily we converge the optic axes, but what we have to do in stereoscopic photography is by muscular effort either to parellelise or diverge them, and so present one picture to the left eye and another to the right eye.

I hope that it will not be imagined that the suggestion I am about to make is too chimerical, but it occurred to me recently, noticing that books are being illustrated by means of stereoscopic pictures, that children—in whom one might imagine the muscles of the eye to be in a supple state—might be easily taught, without inconvenience, to use their eyes as a stereoscope in the manner I have above already described.

I have recently tried the experiment, with every success, upon two of my own children, who are in the habit of looking at stereoscopic photographs in a stereoscope. I constructed a box similar to the one described by Elliott, put prints in, and told them what to look for and how to look for it, and after a while they could see binocular photographs quite stereoscopically without the use of lenses. I then took a Holmes-pattern stereoscope and removed the prism, and still the children were able to obtain the stereoscopic effect. Hence it will be seen we here go to the first principles of Elliott. It seems to me that, in this age of physical and muscular education, which is largely taking the place of mental culture, somebody might take up this point of the education of the eye for stereoscopic purposes. By so doing it is not difficult to foresee the time when the majority of our books would be illustrated by stereoscopic photographs, and we should all be able without effort to see reproductions of art and Nature in the relief, depth, and solidity with which the eye sees creation itself. I hope to refer to this subject on future occasions.

MAGIC EFFECTS OF LIGHT AND SHADE

WE always associate painting with color. We think of the great masters as masters in color harmonies. Their works still enchant us but the color is gone. Why do they then still delight us? We are honest, we do not say they are still beautiful because we fear to say

otherwise and thus display our ignorance. There is a magic in them which abides. It is the magic of light and shade. Take away color, with most painters, and we say, take away the picture. Rembrandt with black and white only, gives all the grand effects of color.

Photography has but one talent in the kingdom of art, but it buries it and sighs for the seven talents of painting.

Look out of your window at noon: the brilliant glare of light envelopes everything and shows the gorgeousness of colors and the multiplicity of forms, yet nothing is remarkable.

The row of houses, the trees, the busy passers-by, are interestings as elements of a picture. Why! We make no reply. But look again from your window.

It is towards sundown now: a softness suffuses every object, the sky seems aglow, the roofs of the houses are bathed in a beautiful light, the houses themselves are in half-shadows, the the trees are fruitful with gradations, the church on the corner is transfigured.

Evening paints with broad touches. It obliterates unmeaning detail. It gives beauty of masses. The imagination is stimulated. We have all the conditions of harmony and beauty necessary for a picture: the dominant light, the subordinate reflections, the shadows, the deeper shadows.

The painter if he feels the influence will seek to transfer the scene to his canvas. The photographer if he sees it will lament the loss of detail and reserve his plate for the brilliant light.

Look at that head! What beauty! What vigor with transparency of shadows! What softness, yet what roundness and strength!

Look how the light strikes that one spot, and wanders off by imperceptible steps to the deep places in the background. How superb the masses! there is no self asserting detail. The painter is enraptured, he longs to reproduce it. The photographer looks. It is not sharp enough. Let us put in a smaller stop and show our brother, the painter, the superiority of our art in translating the truth of nature.

SOME PRINTING METHODS FOR ARTISTIC EFFECTS

O. JANSEN.

THERE are several developable papers on the market but a method of making a variety of this kind which I employed more than thirty years ago, may be of interest to those who like to do a little manipulation for themselves.

PREPARATION OF THE PAPER.

Select a good quality of paper, a rather difficult task just now on account of the combines and monopolies. Mark the side of the sheet you wish to salt.

SALTING SOLUTION.

Water	8 ounces.
Ammonium Chloride	30 grains.
Ammonium Bromide	10 grains.
Gelatine	10 grains.
Citric Acid (Cryst.)	40 grains.
Carbonate of Soda	40 grains.

Let the gelatine soak first in two ounces of the water for a few hours, then add it to the other six ounces, and add the other chemicals. Heat the mixture until the gelatine dissolves. Then filter through coarse muslin. Float the paper on this solution for two minutes, taking care that no bubbles form on the surface. Hang it up to dry spontaneously.

SENSITISING SOLUTION.

Distilled Water	8 ounces.
Nitrate of Silver	4 drachms.
Tartaric Acid	1 drachm.

If any deposit forms, filter it out. If the amount of deposit is considerable, add a few grains of Nitrate of Silver. Float the paper which has been salted on this bath; of course, on

the marked side, for two minutes and hang up in a dark room to dry.

Paper so prepared keeps for a long time.

Print in the usual way, by exposure to daylight until a very faint image is formed. The paper may also be printed by the light from a Wellsbach-burner, or ordinary gas if the exposure be prolonged. But the best results are obtained by printing in the sun.

DEVELOPER—STOCK SOLUTIONS.

(*a*) Acetate of Lead..... .....2 drachms.
Water..... .....4 ounces.

Add Acetic acid, a drop at a time, until the solution clears up.

(*b*) Gallic Acid..... .....16 grains.
Distilled Water..... .....8 ounces.

Apply heat to the mixture and the acid will soon dissolve,
For use—Take of (*a*) 24 drops (minims).
(*b*) 2 drachms.
Water 2 ounces.

Add a few drops of acetic acid sufficient to dissolve the sediment formed.

The exposed print is placed in this solution, taking the usual care to avoid air bubbles.

After the print has been well soaked in this solution, remove to a shallow dish and pour over it the following intensifier, which is really a more concentrated form of the developer.

(*a*) Acetate of Lead Solution.....5 drops.
(*b*) Gallic Acid Solution..... ....4 drachms.
Acetic Acid..... .....15 or 20 drops.
Sufficient to re-dissolve the deposit.

Pour this intensifier on and off the print until the tone required is reached. It passes through various shades from light red to intense platinum black.

The tones are lustrous and beautiful. The toning process is accelerated if the dish is held near the fire. The process is perfectly under control, and in this respect has advantage over many others, as you may watch the gradual evolution of the image and check when desirable. All that is necessary is to place the print in a dish of pure water. After washing the prints, fix in the hypo sulphite of soda 1—8 and again wash.

If sepia or brown tones are alone desired, the development may be stopped at the degree wished for as mentioned above; but the most beautiful browns are secured by a modification of the intensifier or toner, as follows:

(*a*) Acetate of Lead Solution.....5 drops.
(*b*) Gallic Acid Solution.....4 drachms.
Acetic Acid.....15 drops. (as above).
Nitrate of Silver Solution (as above).....5 drops.

Proceed as before, and allow the tone to be a little darker than you desire the finished print as it lightens somewhat in the fixing. Wash and fix as already directed.

Prints made by this method are quite equal to those made by the best developable papers. The best results are obtained with rather strong negatives.

Another variety of paper may be made as follows, which gives artistic prints with proper negatives, that is, such as are suitable for platinum, carbon or bromide.

Immerse the paper in a saturated solution of bi-chromate of potassium from four to six minutes, then dry. Expose in sunshine until the shadows come out red on the back of the paper. Remove from the frame and place face upwards in water, and wash until the white becomes clear, then plunge in bath made as follows:

Saturated Solution Nitrate of Mercury (Mercurous Nitrate).....4 parts.
Sat. Solution of Bi-chromate of Potassa.....1 part.
Water.....28 parts.

This bath should be prepared several hours before it is used, left to settle and then filtered, and should be of a light green tint. If this tint is not secured it will not be effective. Immerse the exposed tint, face downward, with the precaution to avoid bubbles for fifteen or twenty minutes, then remove and wash. The tone is a beautiful Bartholozzi red.

If a brown tone is desired, place after removal from the mercurial bath and after a good washing, in ammonia 2 parts, water 150 parts, and again wash.

The tone is further improved by toning with a very weak gold bath, 1 grain to 40 or 50 ounces of water. Wash finally, and the operation is complete.

No doubt the prints produced by use of the mercurous nitrate, according to the direction of Mr. Jansen, would form an interesting variety for

Freesia and Daisies ROBERT KIFT

Mirror Decoration ROBERT KIFT

artistic effect, but whether they would last any length of time is very doubtful. We are glad to give his formula however, as it serves to revive interest in some of the old processes, which doubtless would repay going over in the light of modern experience. Herschell & Hunt added considerable to our knowledge of the photographic susceptibility of mercury. One of the most interesting formulas was the combination of ammoniac citrate of iron with mercurous nitrate. Paper being first washed over with the former salt, dried, and then floated on solution of mercurous nitrate, gave images with very short exposures, and of an intense black color. The difficulty, however, lay in the fixing, the impressions fading, not only from the action of light but even when kept in the dark. Mercury as a printing agent might repay further investigation.

—(Ed. A. J. of P.)

PORTRAITURE IN ANCIENT EGYPT

MARY K. ERWIN

ASIDE from the historical importance of ancient portraiture there is a human interest which ever links it with the present; for the art of portraiture touches us more nearly than any other art. It brings us face to face with those who lived, loved, and are silent "in the old time before us." Are we not better acquainted with "imperial Cæsar, dead and turned to clay," because we have a counterfeit presentment of him in marble; and can we not better read those passions, stamped on the lifeless stone, in the frown, and wrinkled lip and sneer of cold command of the great Rameses, the Napoleon of ancient Egypt. What human interest clusters round that shattered visage as it lies in the bare and level sands of the desert.

What would history be without the personality of those kings and captains who like Alexander, moulded the destiny of nations.

The question has aptly been asked, "Is it possible to realize what difference it would make to us if we possessed no likeness of Shakespeare?" We are as familiar with his massive English head and intellectual cast of features as if the great poet were still amongst us. What a personal affection we feel for the bust at Stratford, and how eagerly we accept the scanty

data with which it is sought to authenticate the celebrated death mask.

In the present paper I shall endeavor to give a short description of the characteristics of ancient Egyptian portraiture—and illustrate by means of photographs from the sculptures and paintings, how the artists were able to give individuality and even expression to the countenance, despite the trammels which conventionality imposed upon them.

The artistic capacity shown in the sculptures is very considerable. What accurate observation! how thorough the grasp of essential features! how exact the knack of indicating them in vivid outline! How the artist hits off the physical characteristics of the race. There is no mistaking the nationality of a single figure out of the myriads upon the walls, even the different varieties of dogs may be determined.

Nevertheless, the Egyptian knows nothing of perspective or foreshortening or artistic grouping or composition.

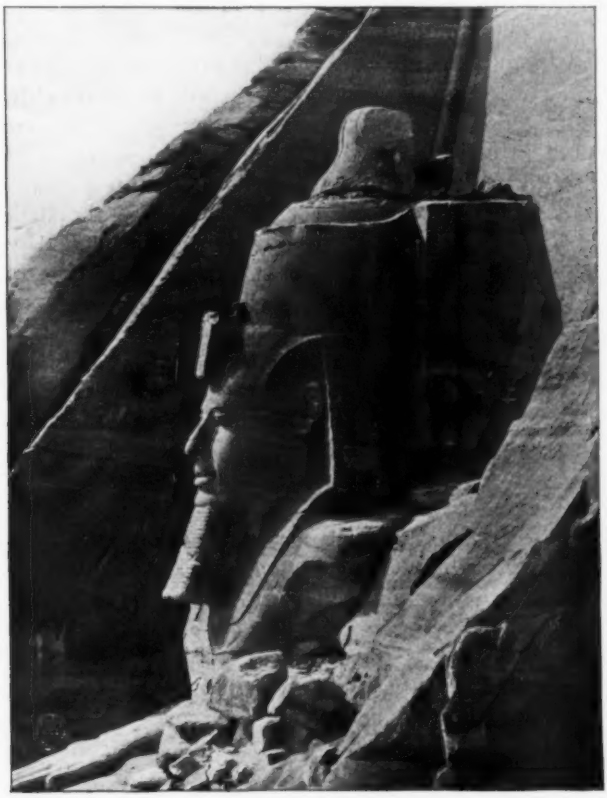
Look at that spirited head of a Syrian chief, photographed by Mr. Flinders Petrie, from a wall painting in the tomb of Rameses III made more than 3000 years ago.

The walls are much damaged and the stucco has peeled off in a number of places, but fortunately the head is nearly perfect. How admirably the artist has caught the peculiar Asiatic type. The eye, to be sure, is falsely drawn according to Egyptian canons, but the Semetic inclination of orbit is indicated, and is there not expression and energy depicted in the countenance?

Most of us are familiar with the old world-couple statues of General Ra-Hotep and Princess Nephert. The General is a sturdy well-built man, with well developed forehead, slightly arched nose, full lips and small chin—evidently a direct portrait from life. If we should remove the somewhat outlandish head-dress of the Princess one could scarcely distinguish her face from many a lady who walks our streets.

The famous statue known as the Wooden Man of Boulak, represents a stout elderly Egyptian who was overseer of the public works during the time when the pyramids were a-building. His face is a rather good natured one, and he probably was not a very severe boss. So well has the sculptor caught his peculiar individuality, so masterly that one scarcely

notices how the wood is split in every direction. No wonder it is split when the tree from which the block was cut flourished nearly 6000 years ago.



COPYRIGHT **Rameses the Great—Temple of Aboo-simbel** EDW. L. WILSON

The cross-legged Scribe now in the Museum of the Louvre is another remarkable portraiture of an intelligent man who shows by his physiognomy that he was a man of the fields and

had probably risen to his position by reason of his activity and energy of character.

He reminds us by the expression on his face, as he sits with pen and tablet in hand, of a modern typewriter who is listening to the dictation from the lips of his employer. The face is instinct with attention and is one of the finest examples of ancient Egyptian portraiture.

The Egyptian portraitists were intensely realistic but as has been remarked "they never succeeded in thoroughly expressing the relation between those muscles which are the sources of motive power, and the bones which supply leverage. Neither did they attempt to represent the texture and elasticity of the skin, which clothes, yet does not hide the structure beneath the surface. But they did perceive, and they did correctly reproduce, the general effect and proportions of the human form."

For portraiture, properly so called, namely, heads, faces, expression, and that indescribable something which indicates character—or in other words, the outward modification wrought upon the features by the workings of the mind—no artists of any age have therein excelled the sculptures of the Ancient Empire.

It would be impossible within the compass of so brief an article as this to follow the development and modification of Egyptian portraiture through all its periods, but we would like to call attention to some recently discovered examples of the Græco-Egyptian School of panel-portraiture discovered in 1887, by Mr. Flinders Petrie, in the Fayûm.

The town which occupied this site appears to have been inhabited by a mixed population, Egyptian, Greek, Syrian, and Roman. The paintings were intended as memorials of the dead and are on flat panels. The mummies adorned by these portraits were enclosed in fine cases solidly stuccoed and brilliantly painted, an oval space being left for the insertion of the panel. In one instance, the panel instead of being laid over the face of the dead was placed alongside the body, and framed with a very modern looking frame. It had evidently formed part of the house decoration of the sitter during his lifetime, the cord by which it was hung being still attached to the frame.

It is even possible to determine the nationality of the various personages. Some are unmistakably Greek, some Roman, while others are Egyptian, Nubian, and Jewish.

"By Still Waters" CHARLES H. CARROLL

These pictures are undoubtedly portraits, and not only portraits but evidently likenesses. It would be impossible to describe the whole series interesting as the study might be.

Amelia Edwards thus describes one of these portraits of a

View in Isle of Wight COLLECTION OF WILLIAM H. RAU

lady. "The eye-brows are thick and dark; the eyes long and of Oriental depth and blackness; and the swarthiness of the complexion is emphasized by the dark shade on the upper lip. It is a passionate intense-looking face—the face of a woman with a history. She wears her black hair cut in a short fringe round the brow, and laid in two long roll-curls, like the hair of the Greeks. Her ear rings consist of a single pearl from which is suspended a horizontal bar of gold. The design of the necklace is of remote antiquity and the lotus flower pendant is of the pattern in fashion in Pharaoh's time."

From the abundance of examples of various styles it is evident that portraiture was almost as popular in those days as photography is now. The people of this town loved pictures and doubtlessly hung them in their rooms just as we do, and treasured these painted memorials of their dear departed friends.

"One very striking feature," says Miss Edwards, "of these Fayûm portraits is the modern character of the heads. There is not a face in the whole series which we might not meet any day in the streets of London or Philadelphia. There is nothing to surprise us in this fact; and yet, so accustomed are we to think of the men and women of the far past as the *dramatis personæ* of ancient history, and as belonging to another age, that it is with a shock of something like incredulous astonishment that we find them so precisely like ourselves. The truth probably is, that as regards features, stature, and complexion, the Ancient Egyptian differed very little if at all, from the Copts of the present day; and that the Greeks and Romans of the classic period were actually more like the people of Northern Europe than are their modern descendants. Hadrian, Marcus Aurelius, Lucius Verus, and many another noble Roman who yet lives in marble or bronze, far more resembled the type of the modern Englishmen than that of the modern Italian. Seneca, Germanicus, and Julius Cæsar might pass for typical Americans."

Past or present, we are in truth but members of one great family; and as we look through this ancient and interesting portrait gallery, we cannot but recognize our kinship with these men and women, these youths and maidens who lived and loved and died nearly two thousand years ago.

PICTORIAL PHOTOGRAPHY

THE case for pictorial photography, from the Salon point of view, is very ably and clearly presented by Mr. Alfred Steiglitz, in the current number of *Scribner's Magazine.* His contention is, that photographic tools being "pliant ones," and not "mechanical tyrants," granted a technical knowledge of their use, supplemented by an all-important supporting buttress of true artistic feeling and knowledge of composition, photography can rise to heights of expression approximating in kind and merit to that of the artist. Dr. Emerson is quoted in support of the points, to the effect that "the painter learns technique in order to speak, and considers painting a mental process. So photography, speaking artistically, is a severe mental process, and taxes all the artist's energies even after he has mastered technique. The point is what you have to say, and how to say it. That our technique is more difficult to learn no one will deny; but the greatest thoughts have been expressed by means of the simplest technique—writing." The necessity for artistic feeling is, of course, readily granted in all photographic work worth looking at, except in such exclusively mechanical directions as taking machinery, and so on, where very conceivably its possession might militate against the desired result. So it is the necessity for a thorough knowledge of technique, otherwise of photographic tools, and the best way of using them; but that those tools are "pliant" ones comes confusedly with this shock that Mr. Steiglitz, in the course of his article, anticipates will be the case "to many who have tacitly accepted the popular verdict to the contrary."

That photographic tools have a certain range of working no one will deny, nor that the range is directly proportionate to the capacity of the worker. That the range can be more specially utilized for the accomplishment of a particular object, and to great advantage, pictorial work for instance, is also clear. One worker, by his superior knowledge of what form of lens to use,

how and when to use it to greatest advantage, his further knowledge of developing and printing, can turn out a very different result to one less capable. This, however, is not pliancy of tool, but knowing how to get full value out of it.

The tool is very stiff and unyielding, and very soon, by comparsion with others, such as the artist's pencil or brush, cramps the action of the hand using it however skilful it be, and the directing brain however capable. The very essence of photography is its truth, and that truth is immediately dependent upon the narrow margin allowed by the severely mechanical nature of the tools, and the use made by their means of stiff, unbending optical laws. We are very fond of exalting this prime feature at need in calling attention to the correctness of detail, texture, and form of a photographic representation, and it can hardly in reason be claimed for photography that it forms an exception to the universal law, that no means can rise to excellence in accomplishing diametrically different effects. Yet this is what is done when the photographer's picture is put so prominently forward for comparison with that of the artist. The artist would not pretend to be able to turn out anything of photographic truth and detail by means of brush and pencil, even were he desirous of doing so. The chief cause for the opposite lack of modesty—or better, perhaps, the lack of appreciation of the broader proportion of things—on the part of the photographic worker, paradoxical though it may seem on the face of it, is really highly creditable to him, viz., so keen a feeling for the artistic side that he wishes to express it in a better way than the orthodox photographic print. One always feels rather sorry, in a case of this kind, that instead of wasting so much high effort in such misdirected ways as straining a lens beyond its power, piecemeal developing, and dodging light in printing, the more suitable methods of the artist have not been taken to. It is as though a mason were trying to carve wood with his chisels, or, *vice versa*, a carpenter blunting his tools upon stone. If one crave for the work of the other, why not change places and tools? Mr. Dallmeyer, in a small pamphlet upon lenses, what they are expected to do and what they cannot, very aptly gives one item of the latter as the inability to

register a result identical with so peculiar a lens, "physiologically and psychologically," as the human eye.

This exactly hits off the cause of the superior excellence of the artist's work. His is an effort more or less good in the opinion of the critic, as his physiology and psychology is more or less like those of the artist, to express the desired subject as he sees it, and with the feeling of excellence he attributes to it, His method admits of it, the photographer's does not. What comparison in terms of labor and brains can there be between an artist, with his pencil or brush, and a photographer with his camera, setting about the picturing of a landscape scene for instance? We will admit that their appreciation of the scene is equally keen and equally artistic. One after carefully seeing that all the mechanical conditions necesssry to success are all right, uncaps his lens, or presses his pneumatic bulb, and the thing is practically done. The other, after taking the same pains in seeing that conditions of light, point of view, and so on, are favorable, has not started with his work. Instead of having it mechanically done for him in a second or two, he has to select here, reject there, turn different values and impressions loose in his brain and fancy, mould them to the expressing point that long practice and diligent study have educated him to regard as practicable and pleasing ; but that is only half the work, less than a half, execution remains ; the correct rendering of form, perspective, and light and shade ; the capacity for doing which he has acquired in a far different and more laborious fashion than the photographer has that for handling his camera. What it really does mean it would do many photographers priding themselves upon their accomplishments in exposing, developing, and printing, a great deal of good to go in for if only in a minor experimental fashion ; and which is the more likely to give satisfaction as a finished result—the sketch with brains behind each pencil stroke, and the scene carefully studied before each is put down ; or the print which the photographer brings out in the obscurity of the dark room by "brush development, forcing here, restraining there, keeping all the while a proper relation between the different parts that the whole may be harmoniously in tone?"

It reads uncommonly well, it must be admitted, and so does the further statement that "the plasticity of the whole pro-

cesses is such that, with the actual beauties of the original scene and its tonal values ever before the mind's eye during the development, the print is so developed as to render all these as they impressed the maker of the print." But will it work out? The trained artist will not admit that it will, often indeed expresses with marked emphasis his conviction to that effect. Mr. Steiglitz, on the other hand, says it will, and honestly believes it, for his article has the stamp of genuine enthusiastic conviction about it. Further, he submits half a dozen pictures, presumably made by the means he advocates, in proof of his point. The pictures are good, show a keen artistic feeling, but are ones that could certainly be produced by the ordinary use of photographic tools, possibly to greater advantage. The secret of their success is due more to the

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judicious selection of subject, that in the absence of obtrusive detail offers a pleasing suggestion to the imagination, emphasized by the well-selected titles to the same end, than to any special method of working. Comparing the pictures with those which an artist of such capacity in his particular direction as the photographer is in his would produce of the same subjects, it may very safely be said that the artist's would be immeasurably superior. The simplicity of the artist's tools leaves an inevitably larger place for the exercise of brains and deft manipulative skill. The essentials that from the creation of the world, or at least that point in the history of the world at which they became recognisable quantities—the first sketch of the mammoth on his horn by the hunter who had killed him maybe—have commanded, and justly, the highest place and deference. That this instinctive paying of respect is a true one, and capable of very much wider application, may be argued from the superior place universally given to a "hand-made" article over the "machine-made" one—at bottom a tribute to what best deserves honor, active brain power.—*British Journal of Photography.*

BOOKS RECEIVED

The American Annual of Photography, for 1900, Scovill, Adams Co., edited by Walter B. Woodbury, is a perfect galaxy of beautiful illustrations, and is replete with excellent papers on every variety of subject relating to photography, scientific, technical and artistic.

Bulletin Phonographique et Cinematographie, is a new publication published in Paris, France, devoted to phonography and the living picture photography. The articles are well written and of much practical utility. The latest discoveries and improvements in scientific instruments are also touched upon.

Businesses For Sale, etc.

Advertisements will be inserted in this column at the rate of 10 cents per line. Display lines will be charged double. Cash must in every case accompany copy, which should reach us not later than the 1st of the month.

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British Journal Almanac, for 1900; edited by Thomas Bedding.—This world-wide-known photographic annual is especially rich this year, in contributions by eminent photographers on a variety of practical subjects, and also in a series of concise practical notes and suggestions of special interest, including a well written epitome of the year's progress, and a resumé of the latest important discoveries and improvements in the art.

The collection of photographic formulæ seems to have practically exhausted the list. One can find receipts there for every known process in photography.

The illustrations are excellent and the reproduction work of the highest grade. The beautiful illustration frontispiece on Wellington Platino Matt Bromide is technically perfect and artistically a gem.

BUSINESS NOTES

The great desideratum in the mounting-room is a ready prepared paste which, while it drys rapidly, still gives ample time to the mounter to adjust the print, especially the large-size kind, to the proper position upon the card. Higgins Photo Mounter possesses this virtue pre-eminently. It is the great favorite with photographers who are frequently obliged to rush large orders, and cannot afford to wait for starch paste to dry, over radiators, etc., before the mounted photograph is in condition suitable for burnishing. It saves time and labor, and gives the best attainable results. CHAS. M. HIGGINS & CO., Brooklyn, N. Y.

Imogen is not one of Shakespeare's heroines, but a very powerful developer whose virtues are as trumpet-tongued as the lovely character whose name it bears in common. It is said to be the most powerful developing agent yet evolved by the *Actien-Gesellschaft für Anilin Fabrikation*, Berlin, Germany.

Rodinal, Eikonogen, Amidol, Diogen and Diphenol are the names of the rest of the series made by this Company.

Luxo is a contraction for luxogen, which means, I produce light, and anyone who for the first time witnesses the amount of luminous energy evolved by the ignition of a few of these potential grains of Luxo, will admit that the name has been well given. Those who delight in flash light work, and are desirous of having the best possible results may invest their cash with full confidence of securing satisfaction. W. P. Buchanan, Phila.

The Tourist Vives are daylight loading cameras made by the Vive Camera Co., of Chicago; intended either for glass plates, cut films or cartridge rolls. They are handsomely finished, easily manipulated and perfectly practicable in every way.

Photographers cannot be too careful in the selection of suitable blotters for drying their prints. The slightest impurity in the pulp may mar the results of the most careful manipulation, besides the photographer desires a blotter which will not lint. The Original Electric Absorbent World Blotter of the Albermarle Paper Co., of Richmond, Va., meets all the most exacting requirements. It is chemically pure and perfection in finish and surface.

SCIENTIFIC NOTES

Popular Astronomy, for December, contains a paper on the photographing of the Great Nebula in Andromeda, by Mr. H. C. Wilson. This nebula, the most conspicuous in the heavens, had been observed and drawn frequently by astronomers, with the aid of the most powerful telescopes, but no idea of its true shape was had until in 1888, when Mr. Isaac Roberts made his famous photograph of it with a 20-inch reflector and a four hours exposure.

The nebula had, it is true, been photographed before Roberts made his picture, but only the central parts had impressed themselves upon the sensitive plate. Astronomers could see a greater extent of nebulosity than could be traced upon the photographs. Mr. Wilson's photographs were taken in October, 1899. The instrument used was the Clark refractor with a three lens objective of eight inches aperature, and the total exposure given was twelve hours. The negative from which the plate was produced is a very delicate one containing a wonderful amount of detail—which is not reproduced in the half-tone. Mr. Wilson says :—

"What strikes ones attention particularly, after a first general impression of the gigantic whorls of the nebula, is the crooked, broken, patchy character of the spirals and the channels between them, and the number of very minute stars strung along the spiral streams of nebula, followed in general the same crooked alignment and avoiding the dark channels. The outermost whorl on the right hand and at the lower end of the nebula is so broken that one has almost to look with averted vision in order to see that the patches make up a continuous stream. Several of the bright patches, especially at the lower right end of the nebula, show a decided tendency to break up into star clusters. In one, the brighest at the lower right, with an equally large dark patch just below it, the process of star formation seems to be well advanced, there being no less than fifty stellar points to be counted in it. A better confirmation of the Nebular Hypothesis of world formation can hardly be found."

The investigation into the character of the Radio Energy evolved from polonium and radium, the name given by M. and Madame Curie to the substance isolated from uranium ores, has brought to light a property of these bodies to induce radio activity in other bodies submitted to their influence. The material subjected to the radiations are suspended a few millimetres above the inducing agent, and thus become impregnated with effluve retaining the property for several days, the intensity diminishing rapidly, but not entirely ceasing for a long time. The phenonomen seems to be a real case of transferred energy by induction and not the result of the lodging of fine particles of the polonium upon the substance

acted upon, inasmuch as the energy was transmitted through a separating septum which completely isolated the source of energy.

The polonium or radium was placed in a box of some metal having a thin bottom of aluminum the material intended to be acted upon being placed outside but in contact with the bottom. The polonium radiations differ from the X-Rays—secondary raditaions—which it will be remembered cease immediately the X-rays are prevented from striking the emitting body.

Prof. R. W. Wood, of Wisconsin University, has been investigating the Clayden effect observed when lightning is photographed. Mr. Clayden was the first to notice that when a plate which has received an impression of a lightning flash or electric spark is afterward fogged, the flash comes out light or reversed on the negative. Prof. Wood points out that this phenonomen produced by fogging the plate shows that there is a condition manifest different from that observed in ordinary reversal, the Clayden effect not being produced if the general or fogging exposure precedes the exposure to the lightning flash.

By a number of ingenious experiments, Prof. Wood proved the time factor to be the only one controlling the Clayden effect; the conclusive demonstration being obtained as follows: Two slits were so arranged by mechanism as to coincide for an interval which proved to be 1–55,000 of a second; and the focal image of a powerful arc light was thrown on the point of coincidence of the slits; the intensity at the focus being about that required to char paper. Plates were now exposed to this intense light for the short period corresponding to the coincidence of the slits, and the result was that the Clayden reversal was obtained, except just at the middle of the slit where the light was most intense; this being an exact parallel with the spark-image reversed at the edges. The action of an intense light on a plate for a very brief time-interval decreases the sensitiveness of the plate to light.

In commenting upon the qualities of a beautiful photograph of the old school of photography, by Mr. John H. Gear, entitled "Autumn," the editor of *London Photograph* says:

"We confess to a sneaking fondness for detail in a photograph, since it is a natural characteristic of the method, and need not interfere with breadth and softness. We are convinced that in a view like Autumn, it supplies most of the delight. Here it is possible to peer into the receding distances and get the same pleasure that we feel when a keen, clear air succeeds a spell of misty weather. It is an exhilarating kind of beauty, high-pitched, robust and braced; whereas, that of the vaporous kind is dreamy, abstracted, and often, we must add, flaccid. The question is to be faced whether fashion has not run far enough on such lines, often to the detriment of views that would have been better treated in Mr. Gear's healthy manner.

"The rich variety of color in the picture is well deserving of praise, as are also the sky and the capital tone values of the whole."

We think these remarks strike a sympathetic cord in the minds of many a photographer "who knows what beauty is, sees where it lies," yet fears to exhibit his work, because it must fall, judged by the standard of the present ruling fashion in photographic art.

RECENT PATENTS RELATING TO PHOTOGRAPHY

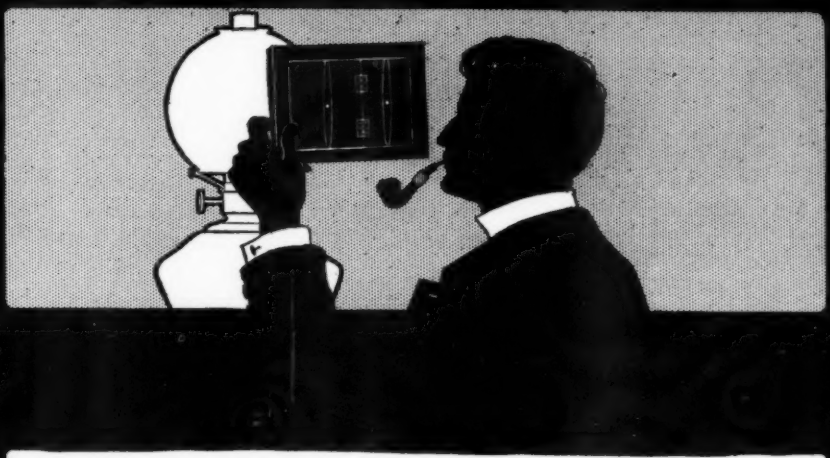
636,823. Magazine camera, Napoleon E. Marchand, Montreal, Can.

637,228. Picture-mounting press, James A. Brandon, Akron, Ohio.

637,745. Photographic printing frame and retouching-stand, Joseph L. Brouse, Chicago, Ill.

637,637. Sensitizing paper, Johannes Meyer, assignor of three-eights to G. Piel, New York, N. Y.

637,638. Composition for sensitizing paper or other surfaces, Johannes Meyer, assignor of three-eights to G. Piel, New York, N. Y.



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638,102. Photographic camera, Edward F. Edgecomb, New Haven, Conn., assignor by mesne assignments to E. & H. T. Anthony & Co., New York, N.Y.

638,103. Photographic shutter, Edward F. Edgecomb, New Haven, Conn., assignor by mesne assignments, to E. & H. T. Anthony & Co., New York, N. Y.

638,455. Magazine camera, Ransom A. Grout, Estherville, Iowa.

638,582. Method of and apparatus for making panoramic photographs, Ernest Hopkinson, East Orange, N. J.

638,300. Magazine camera, Rollin H. Trumbull, Chicago, Ill.

31,953. Design, Card Mount, John P. Odgers, assignor to A. M. Collins Manufacturing Co., Phila., Pa.

31,954. Design, Card Mount, John P. Odgers, assignor to A. M. Collins Manufacturing Co., Phila., Pa.

31,955. Design, Card mount, John P. Odgers, assignor, to A. M. Collins, Manufacturing Co., Philadelphia, Pa.

638,916. Photographic film-support, Charlie E. Doyle, Wardhill, Mass.

638,744. Photographic background carrier, Emil A. Nelson, Hallock, Minn.

638,889. Flashlight pan, Fred Shaefer, Atlanta, Ga.

638,820. Flash lamp, Alfred J. Swaab, and R. de Lamprecht, London, England.

TRADE-MARKS

33,725. Photographic paper, Henry Kuhn, Rochester, N. Y.

33,726. Photographic printing paper, Western Camera Manufacturing Co., Chicago, Ill.

33,765. Kinematograph cameras and projectors, Warwick Trading Co., Limited, and J. Wrench & Son, London, Eng.

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